

Tuesday, January 10, 2017 9:24:09 AM

NS1

Revision ID:

NS?

Cust Item ID:

Customer:

Reference:

DAS
21
9-89

Date:

NR1

Date:

NR2

**Insp.
Stamp**

Revision Nbr

D

0.00

0.00

0.00

0.02

0.00

0.00

100

100

Purchasing

Purchasing

Memo

Issue P/O:

Purchase Part Number: 90145A630

Supplier: MCMaster-Carr

Certificate of conformity is required

110

110

Packaging

Packaging

Memo

120

120

QC

Quality Control

Receive & Inspect for Damage & Mat'l Certs

QC6- Inspect dimensions to drawing

Memo

5

JAN 10 2017

5x split-a-13

5

JAN 16 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By																																																									
								Lead hand / Supervisor Approval Verification																																																									
								QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Work Order ID 155190

Tuesday, January 10, 2017 9:24:09 AM

155190

Page 2

Item ID: D3954-9 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Gwt Chain Pin
Start Date: 1/12/2017 Start Qty: 5.00 ***5*** Cust Item ID:
Required Date: 1/25/2017 Req'd Qty: 5.00 ***5*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: <u>W1002</u>	0.00				<u>5</u>			
130									
Packaging	Memo	0.01							
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.08							
Quality Control									

5 DAS 6 9-89 JAN 17 2017
17/01/18 17-1-17

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Picklist Print

Tuesday, January 10, 2017 9:24:12 AM

Page 1

Work Order ID: 155190

155190

Parent Item: D3954-9

D3954-9

Parent Item Name: Gwt Chain Pin

Start Date: 1/12/2017

Required Date: 1/25/2017

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP REV:A 11.08.16 AS PER REV.C DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
90145A630		Purchased	No			110	Each	0.0000	1	5			
90145A630									**				
Pin													

5x8p17-01-B

DQA: _____ Date: _____

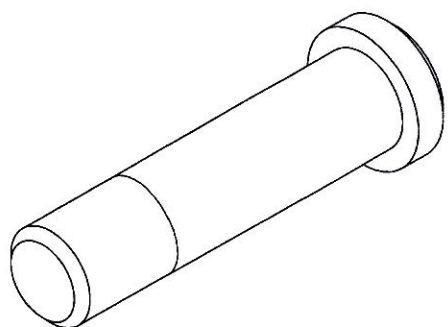


WORK ORDER NON-CONFORMANCE / UPDATE

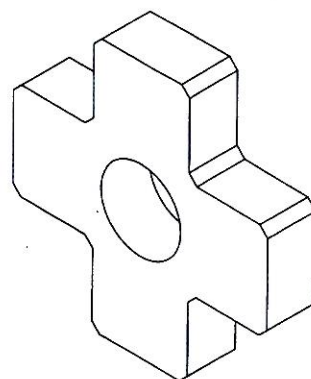
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					



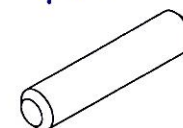
D3954-1 GWT PIN



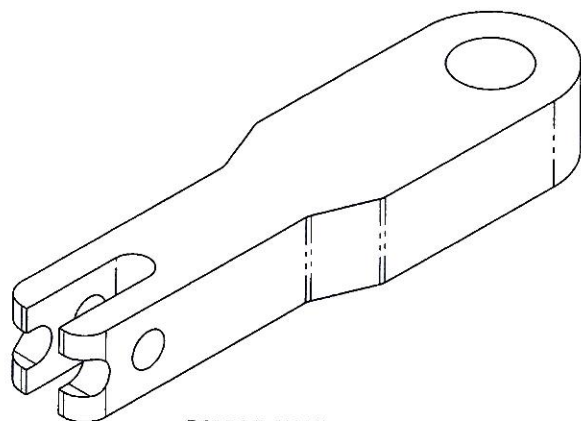
D3954-3 GWT KNOB

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

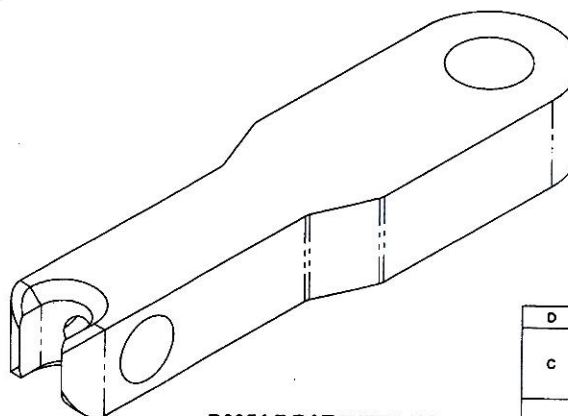
NO. 155190 MJS
1701-10



D3954-9 GWT CHAIN PIN



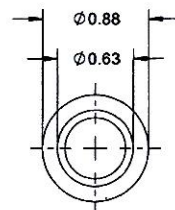
D3954-5 CHAIN LUG



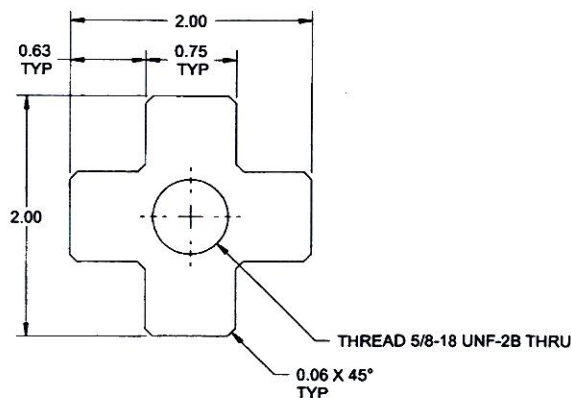
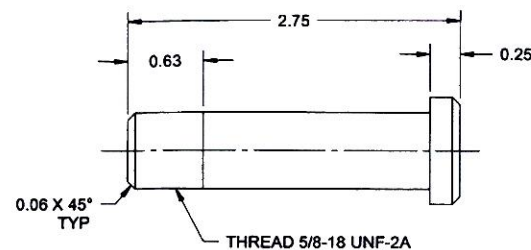
D3954-7 RATCHET LUG

RELEASED
2012-10-01

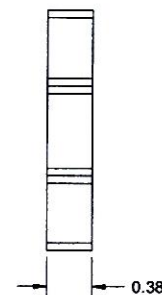
D	ZN A6-2, A6-3. REVISED NOTE 2 TO ADD POWDER COAT.	DC	12.08.10
C	MATERIAL UPDATE FOR D3954-1/3: NOW STAINLESS STEEL ONLY (A6-2); FINISH CHANGED TO "NONE" FOR D3954-1/3 (A6-2); TOLERANCE ON Ø 0.750 WAS: Ø 0.75 MAX (D3-3 & D7-3); D3954-9 NOW A PURCHASED PART (A2/A6-3). REASON: PART11-113.	MB	11.07.27
B	MATERIAL UPDATE FOR ALL COMPONENTS WAS STAINLESS STEEL IS CARBON STEEL FOR ALL COMPONENTS. FINISH FOR ALL COMPONENTS WAS RED POWDER COAT IS YELLOW SPRAY PAINT.	AJS	09.10.15
A	NEW ISSUE	AJS	09.05.26
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS/DSTOW	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	DC		
CHECKED	DC	DRAWING NO.	REV. D
MFG. APPR.	DC	D3954	SHEET 1 OF 3
APPROVED	DC	TITLE	SCALE
DE APPR.	N/A	MISC MACHINED PARTS GWT KIT	NTS
DATE	12.08.10	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



D3954-1 GWT PIN



D3954-3 GWT KNOB

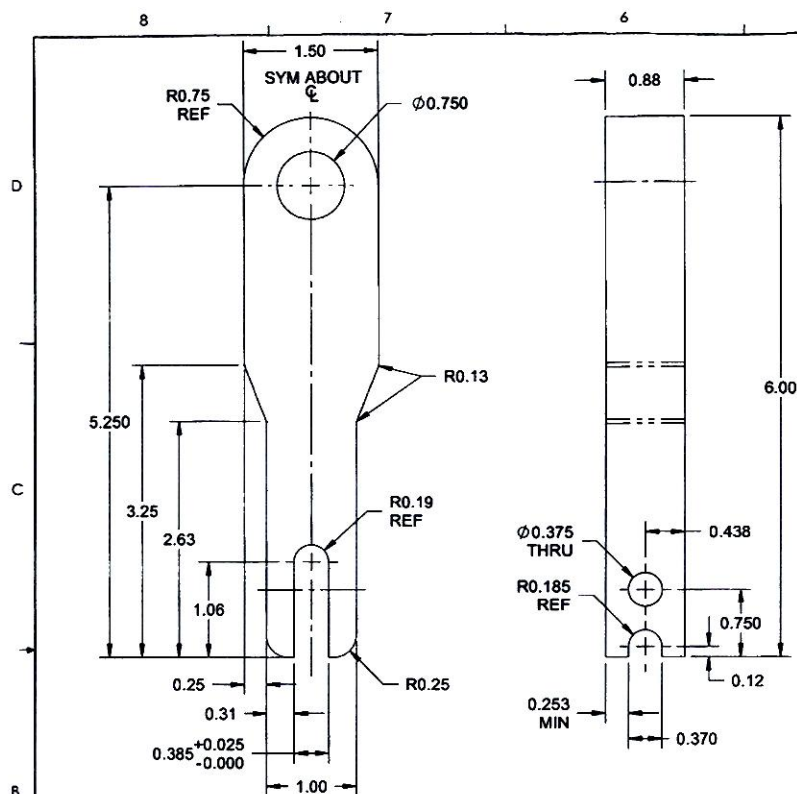


NOTES:

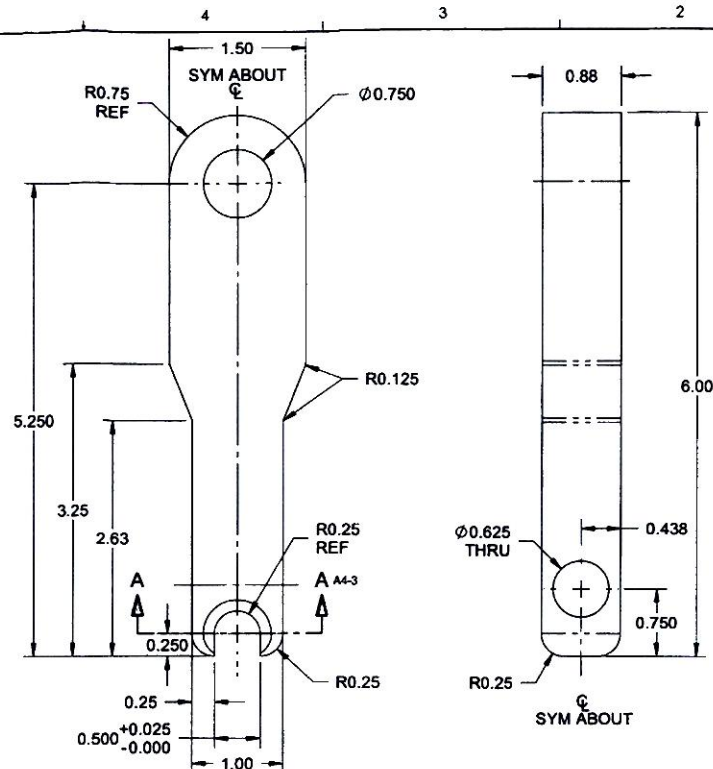
- 1) MATERIAL -1: AISI 303/304/316 STAINLESS STEEL ROUND BAR
PER ASTM A582 (303) OR ASTM A276 (304/316)
REF DART SPEC M303R OR M304R
- 3: AISI 303/304/316 STAINLESS STEEL SHEET
PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316)
OR ASTM A240 OR ASME SA240
REF DART SPEC M303S OR M304S
OR:
AISI 303/304/316 STAINLESS STEEL BAR OR AISI 304/316 PLATE
PER ASTM A582 (303) OR A276 (304/316) OR ASTM A240 (304/316)
REF DART SPEC M303B OR M304B
- 2) FINISH: SPRAY PAINT YELLOW WITH BERTRAND CG1031B PER DART QSI 005 4.2
OR POWDER COAT HYBRID SAFETY YELLOW (4.3.5.12) PER DART QSI 005 4.3 Δ
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER DART QSI 044 6.1
- 7) WEIGHT -1: 0.26 lbs
-3: 0.23 lbs

RELEASED
2012-10-01

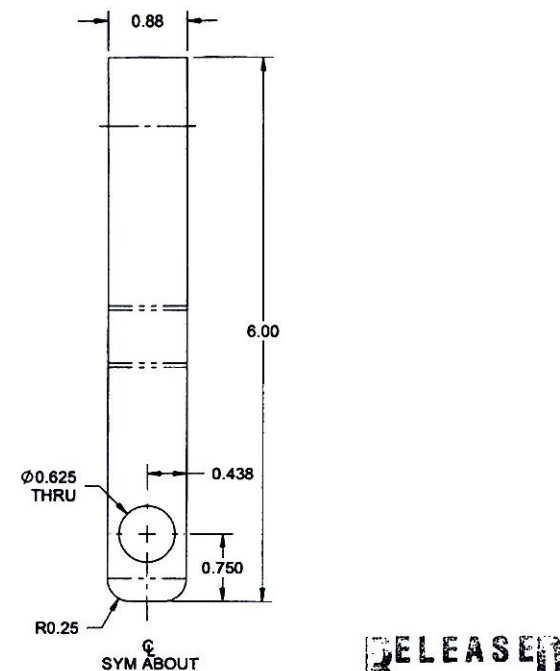
DESIGN	AJS/DSTOW	DART AEROSPACE LTD	
DRAWN	BC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	JS	DRAWING NO.	REV. D
MFG. APPR.	JS	D3954	SHEET 2 OF 3
APPROVED	NO	TITLE	SCALE
DE APPR.	N/A	MISC MACHINED PARTS GWT KIT	NTS
DATE	12.08.10	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



D3954-5 CHAIN LUG



D3954-7 RATCHET LUG



D3954-9 GWT CHAIN PIN

NOTES:

1) MATERIAL:

- 5/-7: AISI 1010-1025 MILD STEEL BAR
PER DART SPEC M1010-B
- 9: PURCHASE PART FROM MCMaster-CARR:
P/N 98381A630 (MILD STEEL)

ALTERNATE MATERIAL:

- 5/-7: AISI 303/304/316 STAINLESS STEEL BAR OR AISI 304/316 PLATE
PER ASTM A582 (303) OR A276 (304/316) OR ASTM A240 (304/316)
REF DART SPEC M303B OR M304B
- 9: PURCHASE PART FROM MCMaster-CARR:
P/N 90145A630 (STAINLESS STEEL)

**2) FINISH -7 ONLY: SPRAY PAINT YELLOW WITH BERTRAND CG1031B PER DART QSI 005 4.2
OR POWDER COAT HYBRID SAFETY YELLOW (4.3.5.12) PER DART QSI 005 4.3**

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

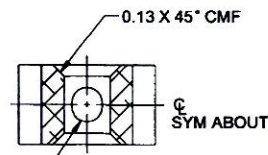
4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX

6) IDENTIFICATION: IDENTIFY PER DART QSI 044 6.1

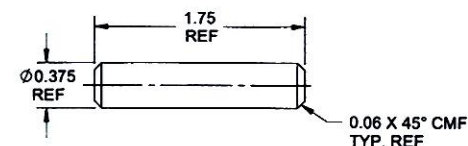
7) WEIGHT -5/-7: 1.56 lbs EACH

-9: 0.05 lbs REF



WALL BREAK THRU
ACCEPTABLE

SECTION A-A C3-3



D3954-9 GWT CHAIN PIN

DESIGN	AJS/DSTOW	DART AEROSPACE LTD	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AS	DRAWING NO.	REV. D
MFG. APPR.	SC	D3954	SHEET 3 OF 3
APPROVED	SC	TITLE	SCALE
DE APPR.	N/A	MISC MACHINED PARTS GWT KIT	NTS
DATE	12.08.10	COPYRIGHT © 2009 BY DART AEROSPACE LTD	
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RELEASED
R 2012-10-01



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO34888**

Purchase Order Date 1/10/2017

PO Print Date 1/10/2017

Page Number 1 of 7

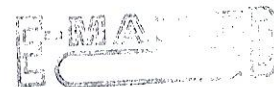
Order From :

VU-MCM001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

JAN 10 2017



MCMaster-CARR SUPPLY CO,
P.O. BOX 7690
CHICAGO, IL 60680-7690
US

Contact Name

Vendor Phone 330 995 5500

Ship To Contact

Ship To Phone

Ship Via: Purolator ground ppd

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 10

Currency

USD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
4	59915K274 AS PER DWG D4777 REV. A B155194	Rod End Bearing	1/12/2017 Yes 1/12/2017		10.00 Each	\$19.05	\$190.50
Line Total:							\$190.50
5	90145A630 AS PER DWG D3954 REV. D B155190	Pin DAS 38 1-88	1/12/2017 Yes 1/12/2017		5.00 Each	\$2.65	\$13.26
Line Total:							\$13.26
6	90289A352 AS PER DWG D3585 REV. A B155189	SET SCREW	1/12/2017 Yes 1/12/2017		10.00 Each	\$0.91	\$9.07

Note:

1/10/2017



200 Aurora Industrial Pkwy
Aurora OH 44202-8087
330-995-5500
cle.sales@mcmaster.com

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury ON K6A 1K7
Canada

Purchase Order
PO34888

Order Placed By
Chantal Lavoie

McMaster-Carr Number
5447321-02

Page 1 of 2

01/10/2017

Line	Product	Ordered	Shipped
1	59915K274 PTFE-Lined Stainless Steel Ball Joint Rod End 3/8"-24 RH Male Shank, 3/8" Ball ID, 1-1/4" Long Thread Your Part Number: YOUR LINE 4	10 Each	10
2	90145A630 18-8 Stainless Steel Dowel Pin 3/8" Diameter, 1-3/4" Length, Packs of 5 Your Part Number: YOUR LINE 5	1 Pack	1 <i>DAE 38 9-8</i>
3	90289A352 Alloy Steel Knurl-Grip Cup Point Set Screw 1/4"-28 Thread, 5/16" Long, Packs of 50, Shipping 1 Pack of 50 To Meet Your Need For 10 Ea Your Part Number: YOUR LINE 6	1 Pack	
4	9273K43 General Purpose Nylon Hook and Loop 2" Width x 50' Length, Adhesive Back, Black Your Part Number: YOUR LINE 7	1 Each	1
5	4066A46 Hole Saw 1-1/2" Cutting Depth, 2-7/8" Diameter Your Part Number: YOUR LINE 8, FOR SYLVIE	1 Each	1
6	4066A79 Arbor with 3/8" Hex for 1-1/4" to 8" Hole Saw Your Part Number: YOUR LINE 9, FOR SYLVIE	1 Each	1
7	6309K34 Versa-Mount Vibration-Damping Mount 130 lb. Compression Capacity, 1.94" Overall Height Your Part Number: YOUR LINE 10, FOR DARYL	16 Each	16
9	5039A51 Quick-Grip Bar Clamp 6" Maximum Opening, 140 lb. Holding Capacity Your Part Number: YOUR LINE 12, FOR SYLVIE	4 Each	4
10	7579A42 6 oz. Empty Cartridge for Single-Component Dispensing Gun Your Part Number: YOUR LINE 13, FOR SYLVIE	12 Each	12
11	6830A13 Quick-Read Tape Measure 25 Feet Length Lacquer-Coated Steel Blade Your Part Number: YOUR LINE 14, FOR ERIC D	12 Each	12
12	5549A22 1/2" Square Drive Impact Socket 6-Point Standard, 3/4" Size, 1-1/2" Overall Length, Black Your Part Number: YOUR LINE 15, FOR ERIC L	1 Each	1
13	53525A41 3/4" Square Drive Hex-Bit Impact Socket Hex Bit, 1/2" Size, 3-15/16" Overall Length, Black Finish Your Part Number: YOUR LINE 16, FOR ERIC L	1 Each	1
14	45695K13 Easy-Clean Valve for Chemicals On/Off Function, 3/8 NPT Female Your Part Number: YOUR LINE 17, FOR ERIC L	1 Each	1
15	5225K722 Push-to-Connect Tube Fitting for Air Swivel 90 Degree Elbow for 6mm Tube OD x 1/8 NPT Male Your Part Number: YOUR LINE 18, FOR ERIC L	2 Each	2
16	3814A31 8-Segment Steel Breakaway Blade, Packs of 10 Your Part Number: YOUR LINE 19, FOR CHANTAL	10 Packs	10
17	7701K34 Button/Coin Cell Battery Lithium, Size CR2032 Your Part Number: YOUR LINE 20, FOR CHANTAL	24 Each	24
18	7604K83 Button/Coin Cell Battery Silver Oxide, Size SR44, 160 MA-Hrs. Capacity Your Part Number: YOUR LINE 21, FOR CHANTAL	24 Each	24

SP17-A-B

Packing List

200 Aurora Industrial Pkwy
Aurora OH 44202-8087
330-995-5500
cle.sales@mcmaster.com

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury ON K6A 1K7
Canada

Purchase Order
PO34888

Order Placed By
Chantal Lavoie

McMaster-Carr Number
5447321-02

Page 2 of 2

01/10/2017

Shipped separately from our Chicago warehouse on 01/10

19	8841A21	Multi-Diameter Step Drill Bit High-Speed Steel, 13 Sizes, 1/8"-1/2", 1/4" Shank Diameter, 1/8" Maximum Thickness	6 Each	6
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Expected to ship

8	8492A999	Press-Fit Drill Bushing with Head, 1/2" OD, 1/2" Length, 0.3160 ID	4 Each	4 Jan 16
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Notes about your shipment

The U.S. Department of Transportation regulates the shipping of lines 17 and 18. By purchasing from McMaster-Carr Supply Company, you agree not to transport or permit others to transport purchased items except in accordance with U.S. law and any other applicable laws.

SP17-01-B